

### **REMARKS**

The specification is amended within paragraph [0022] to show the hydrogen atom at the free site of formulas (III) and (IV). Support is inherently present in the application. This is evidenced by the Examiner's assertion that, "other formulae, e.g. formula (II), have clearly labeled hydrogen atom constituents", and that "[f]rom the other structures disclosed, it appears Applicant intended for [the free sites of formulas (III) and (IV)] to indicate a hydrogen atom at each position." (Paper No. 20070716 at 2, paragraphs 1 and 2). Furthermore, the context clearly indicates that a hydrogen atom at the free sites is intended.

Claim 1 is amended to recite that in the process for forming capsules, the step of "depositing the amino compound as a resin upon the surface of the core material to form capsules" is -- without adding an exogenous deposition promoter --. Support is found throughout the specification, particularly, for example, at paragraphs [0039] to [0042], and Examples 1-3 at paragraphs [0053] to [0055].

Claim 6 is amended to recite a compound according to formula (I) where formula (I) is recited, rather than reciting a compound according to formula (I) "of claim 1". Support is inherently provided in claim 6 in its recitation of a compound according to formula (I) of claim 1.

Claim 6 is also amended to recite that in the "encapsulated material comprising a core material and a wall material, characterized in that the wall material comprises a resin prepared from a compound according to formula (I)", the -- resin is free from an exogenous deposition promoter --. Support is found throughout the

specification, particularly, for example, at paragraphs [0039] to [0042], and Examples 1-3 at paragraphs [0053] to [0055].

With regard to the amendments to Claims 1 and 6 that pertain to non-inclusion of a deposition promoter, we note that the specification provides that depositing the amino compound (1) as a resin upon the surface of the core “involves changing the conditions in such a way as to cause phase separation of the wall material from the continuous wall solution phase.” (Specification, paragraph [0039], ln. 3-6). Phase separation, according to the specification, is achieved by **changing an existing condition** by, for example, increasing or decreasing temperature, increasing molecular weight of the resin by prolonging polymerization, or increasing or decreasing the concentration of the resin. (Id. at paragraphs [0039] to [0041]. Introduction of an exogenous deposition promoter, on the other hand, is not contemplated in the present application. This is further supported by the fact that no discrete, exogenous deposition promoter is used according to any of Examples 1-3. (Specification, paragraphs [0053] – [0055]).

Claim 7 is amended to recite a compound according to formula (V) where formula (V) is recited. Support for this amendment is found in the specification at, for example, paragraph [0027].

See *In re Gardner*, 177 USPQ 396, 397 (CCPA 1973) and MPEP §§601.01 (0) and (I). Various amendments are implicitly or inherently supported, which is permissible. MPEP § 2163.05.

No new matter is added by any of the amendments. Entry of the amendments is respectfully requested.

### **Objection to the Specification**

The Examiner has objected to the specification as having informalities. (Paper 20070716 at 2). The Examiner alleged that "formulae (III) and (IV) are partially ambiguous". (Id.) The Examiner indicated that "other formulae, e.g., formulae (II), have clearly labeled hydrogen atom constituents, but formulae (III) and (IV) do not." (Id.). In requesting clarification, the Examiner acknowledged that "[f]rom the other structures disclosed, it appears Applicant intended for said sites to indicate a hydrogen atom at each position." (Id.)

Applicants have amended the specification to indicate a hydrogen atom at the "free site" of each of formulas (III) and (IV) as requested by the Examiner. As the Examiner's statement evidences and as the context clearly indicates, one skilled in the art would know that a hydrogen at the free sites was intended. Removal of the objection is respectfully requested.

### **Objection to Claims 6 and 7**

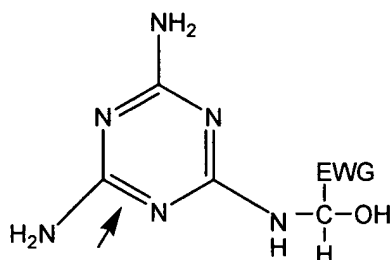
The Examiner has objected to claims 6 and 7 as being informal in that the claims should recite the chemical structures used. (Id. at 2). The Examiner stated that claim 6 has been interpreted to be independent for purposes of the Action.

Applicants have amended claims 6 and 7 to recite structural formulas (I) and (V), respectively, as requested by the Examiner. It is submitted that the objection has been rendered moot. Removal of the objection is requested.

### **Indefiniteness Rejection**

The Examiner rejected claims 1-13 under 35 USC § 112 as indefinite. (Paper No. 20070716 at 10). In making the rejection, the Examiner asserted that “[f]ormula (I) of claim 1 and its dependents is ambiguously defined” with regard to “formula (I) [which] includes the phrase ‘R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> may together form a heterocyclic group...’ (Id. at 10-11). The Examiner asserted that “Applicant does not indicate whether R<sub>1</sub> and R<sub>2</sub> may together compose a double bond, or must instead be separate constituents of the heterocyclic group where, for example, R<sub>1</sub> is an N-substitution of a heterocyclic ring comprised by R<sub>2</sub> and R<sub>3</sub>.” (Id. at 11).

Applicants submit that one skilled in the art would understand the phrase “R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> may together form a heterocyclic group” as including compounds wherein R<sub>1</sub> and R<sub>2</sub> may optionally form a double bond and as including compounds wherein R<sub>1</sub> is an N-substitution of a heterocyclic ring comprised by R<sub>2</sub> and R<sub>3</sub>. The specification refers to formula (I) as “amino compound (I)”. (US2007/0092726 page 1, paragraph 13). The specification further defines “[a]n amino compound” in paragraph 20. Numerous “suitable amino compounds” are listed, ending with the statement that “[i]n particular melamine is used.” (Specification, paragraph 20). Where melamine is used, for instance, as the amino compound of formula (I), then the compound includes a double bond as indicated by the arrow in the following formula:



"In rejecting a claim under the second paragraph of section 112, *it is incumbent on the Examiner to establish that one having ordinary skill in the art would not have been able to ascertain the scope of protection defined by the claim when read in light of the supporting specification.*" *Ex parte Cordova*, 10 USPQ2d 1949, 1952 (Board of Pat. App. and Int. 1989), citing *In re Moore*, 169 USPQ 236 (CCPA 1971). In view of the specification, which provides exemplification of the amino compound and in view of what one skilled in the art would understand the claims to mean in light of the specification, Applicants submit that the claims meet the standard of definiteness under 35 USC § 112. Reconsideration and withdrawal of the rejection are requested.

### **Double Patenting Rejections**

In a first double patenting rejection, the Examiner rejected claims 6-13 of the present application on the grounds of nonstatutory obviousness-type double patenting over claims 7-21 of copending Application No. 11/707,952 ("the '952 Application") in view of Kiritani et al. U.S. Patent No. 3,981,821 ("Kiritani"). (Id. at 3).

The Examiner asserted that in the '952 Application, a process is claimed for making a compound which is an ester of a compound of formula (I) of present claims 6-13, and the Examiner considers the ester group to be an electron-withdrawing group

as claimed. (Id. at 4). In brief, the Examiner asserted that “[t]he claims in [the ‘952 Application] are directed toward processes for making the same compound as in [the present application]”. (Id.) The Examiner also asserted that the claims of the ‘952 Application cover “amino-aldehyde resins prepared from the [compound of formula (I)]”. (Id.)

The Examiner acknowledged, however, that “[the ‘952 Application] is *silent* with regards to encapsulated materials.” (Id.) (emphasis added).

In making the rejection, the Examiner asserted that Kiritani “disclose a method for preparing microcapsules containing a hydrophobic liquid.” (Id.). The Examiner asserted that “the process involves emulsifying the hydrophobic liquid as a disperse phase in a hydrophilic liquid, polymerizing a wall-forming substance present in the hydrophilic liquid phase, and depositing said substance around the hydrophobic liquid droplets” (Id. at 4-5). The Examiner also cited the portion of Kiritani as noted above regarding the wall-forming substance, and stated that it “can be any water-soluble compound which can either self-polymerize or react with another reactant to form water-insoluble polymers...” (Id. at 5). The Examiner asserted that Kiritani list examples of wall-forming substances, and of those, the Examiner listed the following: “urea resins, melamine resins, a urea resin and an aldehyde compound, and a melamine [compound]<sup>1/</sup> and an aldehyde compound.” (Id.).

In a second double patenting rejection, the Examiner rejected claims 6-13 on the grounds of nonstatutory obviousness-type double patenting over claims 1-5 of

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<sup>1/</sup> The Examiner had written melamine “resin”, which has been replaced here with the language used by Kiritani, i.e., melamine “compound”.

U.S. Patent No. 7,199,209 ("the '209 patent") in view of Kiritani. (Id. at 5-6). The Examiner stated that "[t]he claims [of the present application] are directed toward processes for making the same compound as claimed in [the '209 patent]." (Id. at 6).

The Examiner acknowledged that "[the '209 patent] is ***silent*** with regards to encapsulated materials." (Id.) (emphasis added).

The Examiner asserted that "[Kiritani] disclose a method for preparing microcapsules containing a hydrophobic liquid...as explained above." (Id.) The Examiner appeared to refer to the rejection previously discussed concerning Kiritani.

Both double patenting rejections respectfully are traversed for the reasons set forth below.

An obviousness-type double patenting analysis is an obviousness analysis, and it must follow and be based on each of the *Graham* factors. See *Studiengesellschaft Kohle mbH v. Northern Petrochemical Co.*, 228 USPQ 837, 840, *cert. dismissed*, 478 U.S. 1028 (1986); and *Pac-Tec, Inc. v. Amerace Corp.*, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990); *In re Braat*, 19 USPQ2d 1289, 1292 (Fed. Cir. 1991); *In re Braithwaite*, 154 USPQ 29, 34 n. 4 (CCPA 1967). As the Office Action reflects, although the Examiner acknowledged that the pending claims differ from the claims of each of the '952 application and the '209 patent, yet the Office Action failed to make clear ***why*** one of ordinary skill in the art "would conclude that the invention defined in the claim(s) at issue ... would have been an obvious variation of the invention defined in a claim in the patent." MPEP § 804(II)(B)(1) (8<sup>th</sup> ed. Rev. 6, Sept. 2007, pp 800-21 to 800-22).

Additionally, the rejection of the claims in this application over the claims of each of the '952 application and the '209 patent fails to make a claim-by-claim comparison and analysis. As the Federal Circuit explained, a "double patenting challenge must be evaluated, like any other ground of invalidity, against individual claims." *Ortho Pharmaceutical Corp. v. Herchel Smith*, 22 USPQ2d 1119 (Fed. Cir. 1992). See also MPEP § 804. In *both* of the double patenting rejections, however, the Examiner *only* asserted that "at the time of the invention, claims 6-13 would have been obvious to one of ordinary skill in the art...in view of [Kiritani]." (Id. at 5; Id. at 6).

Thus, it respectfully is submitted that because the rejection is deficient as a matter of fact and law, it should be withdrawn.

In addition to the foregoing, the first double patenting rejection (based on the '952 application) was provisionally made. For this reason alone, no terminal disclaimer is required at this time in response to the first rejection. See MPEP §§ 804(I)(B)(1) (8<sup>th</sup> ed. Rev. 6, Sept. 2007, pp. 800-17 to 800-18).

With regard to the second double patenting rejection (based on the '209 patent), we respectfully submit that the Examiner's statement concerning the subject matter of the claims of the present application is erroneous. The presently claimed subject matter is not, as the Examiner asserted, "directed toward processes for *making the same compound* as claimed in [the '209 patent]." (Paper No. 20070716 at 6) (emphasis added). Rather, the present claims recite a process for forming capsules in which amino compound (I) is deposited as a resin upon the surface of the core material; and encapsulated material comprising a core material and a wall material, wherein the wall material comprises a resin prepared from a compound according to formula (I).



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Due to the Examiner's incorrect premise regarding claim coverage in making the second double patenting rejection, the rejection is improper and should be withdrawn.

With a view towards furthering prosecution, independent claim 6 has been amended to recite "[e]ncapsulated material comprising a core material and a wall material, characterized in that the wall material comprises a resin prepared from a compound according to formula (I)" where the formula (I) definition has been added, and the phrase -- **wherein the resin is free from an exogenous deposition promoter** -- has also been added.

Furthermore, the secondary reference cited in both rejections, Kiritani, discloses "a process for preparing microcapsules containing a hydrophobic liquid." (Kiritani, Field of the Invention, Col. 1). Kiritani discloses:

a process for encapsulation which comprises **emulsifying** a hydrophobic liquid to be encapsulated as a disperse phase in a hydrophilic liquid immiscible therewith as a continuous phase, **polymerizing** at least one capsule wall-forming substance present in the hydrophilic liquid continuous phase, and **depositing the resulting polymer** around the droplets of the hydrophobic liquid thereby to envelope the hydrophobic liquid droplets from the outside;...

(Summary of the Invention, Col. 2, ln. 11-19) (emphasis added).

Kiritani disclose that the "wall-forming substance to be present in the continuous phase in the present invention can be any water-soluble reactants which self-polymerize to form water-insoluble polymers, or those which react with another reactant in the continuous phase to form water-insoluble polymers." (Col. 3, ln. 31-36).

We respectfully submit that the Examiner's characterization of Kiritani is in error in that it studiously ignores the presence of an essential component taught by

Kiritani. Namely, ***Kiritani require the addition of a deposition promoter*** to promote the deposition of the polymer. The following cited portion of Kiritani is a continuation of the section cited above from the Summary of the Invention. Thus, following the section which discloses the steps of “emulsifying”, “polymerizing”, an “depositing the resulting polymer”, Kiritani’s Summary of the Invention continues as follows to describe the “process for encapsulation”:

in which **a substance which** has reactivity with at least one of the wall-forming substances in the continuous phase and consequently **promotes the deposition of the polymer** resulting in the continuous phase **is caused to be present in the droplets of the hydrophobic liquid prior to the step of emulsifying the hydrophobic liquid.**

(Summary of the Invention, Col. 2, ln. 19-25) (emphasis added).

Accordingly, Kiritani is directed to a process for encapsulation that includes the addition of a **deposition promoter** to promote the deposition of a polymerized wall-forming substance around droplets of hydrophobic liquid.

The Examiner’s list of examples of wall-forming substances citing Kiritani col. 3, ln. 44-54 is stated by Kiritani to be “[t]ypical examples of the reactants which can be used in the continuous phase ...”. These examples are thus referred to interchangeably as “wall-forming substances” or “reactants”.

It is noted that Kiritani disclose that a “urea resin or a melamine resin” are “compounds which self-polymerize”. (Kiritani, Col. 3, line 53-54). Kiritani further disclose that “in the process of this invention, when one wall-forming substance is used in the continuous phase, it is self-polymerized to form polymer walls, and when two or more wall-forming substances are used, they are copolymerized at least with each other

to form polymer walls.” (Col. 3, ln. 3-9). Kiritani also disclose that “[t]he melamine resin used in the continuous phase is a reaction product formed between melamine and an aldehyde..” (Col. 5, ln. 45-47). A “specific [example]” disclosed by Kiritani “of these resins include[s] a melamine/formaldehyde reaction product...”. (Col. 5, ln. 47-48).

It is respectfully submitted that in view of the foregoing disclosures, the Examiner has failed to consider the teachings of Kiritani as a whole as it would be understood by one of ordinary skill in the art. First, in the Description of the Prior Art section, Kiritani characterize a prior method identified as method (a) “which comprises dissolving a water-soluble aminoaldehyde condensate in a continuous phase, polymerizing ... using an acid catalyst, [and] depositing the polymer around the particles to be occluded ... which are dispersed in the continuous phase, thereby to encapsulate the particles (as disclosed in U.S. Pat. No. 3,516,941).” (Col. 1, ln. 17-23) Kiritani disclose:

In method (a)..., the polymer formed by polymerization in the continuous phase does not deposit only around the particles to be occluded, but particles consisting only of the polymer are formed in the continuous phase. **It is difficult therefore to deposit all of the wall-forming substance used around the particles to be occluded with good efficiency. As a result, microcapsules obtained ...have a very thin capsule wall**, and in some cases, the particles to be occluded per se without any capsule walls (that is, unencapsulated oil droplets) remain. **Accordingly, method (a) does not provide capsules having a high ability to retain the contents. Furthermore, the capsules obtained by the method (a) have the defect of low mechanical strength.”**

(Col. 1, ln. 41-55). (emphasis added).

Kiritani disclose that adding at least one discrete, exogenous deposition promoting agent solves the problem in the art characterized by Kiritani as insufficient capsule strength or inability to form capsule walls. (Kiritani, entire document). Nothing

in the disclosure of Kiritani substantiates that the process would work without such a deposition promoting agent. More to the point, the Examples of Kiritani support that Kiritani considers the inclusion of at least one discrete, exogenous deposition promoting agent to be essential to the success of their encapsulation process.

In Kiritani Examples 1 and 2, microcapsules were prepared with a deposition promoter and, explicitly for comparative purposes, capsules were also prepared by polymerization of reactants in the continuous phase without a deposition promoter. (See Examples 1 and 2, Col. 7, In. 29 – Col. 10, In. 39). In Example 1, polymerization was between a “polyamine and formaldehyde”. (Col. 7, In. 61-62). The deposition promoter used was tolylene diisocyanate trimer. “In order to compare these microcapsules with microcapsules produced using [method] (a) ... described hereinabove, microcapsules were prepared ... by Method (a) ... only by a polymerization of reactants in the continuous phase without using a deposition promoter in the hydrophobic liquid to be occluded. In other words, Example 1 was repeated except that the deposition promoter was not used.” (Col. 7, In. 65 – Col. 8, In. 8).

Kiritani disclose that the microcapsules produced according to their encapsulation method in which a deposition promoting agent is included “have an excellent ability to retain the occluded hydrophobic liquid as compared with [method] (a)...”. (Col. 9, In. 1-4). Kiritani unequivocally disclose, “[t]he polymer deposited around the hydrophobic liquid droplets preferentially due to the action of the deposit promoting agent present in the hydrophobic liquid, and formed the capsule walls.” (Col. 7, In. 51-55). (emphasis added).

Kiritani also disclose that upon using the comparison method (a) in which **no** deposition promoting agent was used as a comparison to Example 1, "capsules were essentially not formed, but only an emulsion of the hydrophobic liquid resulted." (Col. 8, In. 54-56). Kiritani reiterates, "**According to [method] (a) ..., capsule walls were not at all formed...**" (Col. 9, In. 21-23). (emphasis added).

In Example 2, Kiritani disclose polymerization of a polyethylene imine polymer with glyoxal using a deposition promoter which is an adduct of trimethylol and hexamethylene diisocyanate. (Col. 9, In. 33-48). Similar to the results obtained in Example 1, Kiritani concluded that polymerization resulted "due to the action of the deposition promoter... to form capsule walls." (Col. 9, In. 53). Also explicitly "[f]or comparison" to Example 2, Kiritani disclose encapsulation by Method (a) in which "the deposition promoter was not used." (Col. 9, In. 55-62). Kiritani disclose that where the deposition promoting agent was not used, "sufficient capsule walls were not formed." (Col. 10, In. 10-12).

Furthermore, Kiritani disclose that where capsule formation was successful, it was attributed to the presence of a deposition promoting agent. This has been noted above in connection with Examples 1 and 2. In Example 3, an epoxy polyurea polyamide co-condensed resin was polymerized with a polyamine using the deposition promoter phthalaldehyde. (Col. 10, In. 42-54). As in Examples 1 and 2, Kiritani concluded that the Example 3 "polymer deposited around the hydrophilic liquid droplets by the action of the deposition promoter." (Col. 10, In. 54-56). Kiritani disclose in Example 4 that melamine-formaldehyde resin was used as the wall-forming substance and the deposition promoter phenylene diamine was added in a process for

microencapsulating toluene. (Col. 10, In. 63 – Col. 11, In. 10). Kiritani conclude, “[t]his [melamine-formaldehyde resin] polymer deposited around the toluene droplets due to the action of the deposition promoter dissolved in the toluene to form capsule walls.” (Col. 11, In. 3-8). “Microcapsules containing toluene were obtained.” (Col. 11, In. 9-10).

In view of the disclosures of Kiritani as a whole, one skilled in the art would understand Kiritani as requiring the use of at least one discrete, exogenous deposition promoter to prepare microcapsules containing a hydrophobic liquid. In view of Kiritani’s characterization of prior methods and Kiritani’s data and conclusions regarding the use of a deposition promoting agent, one skilled in the art would not have a reasonable expectation of success in microencapsulating without the inclusion of a deposition promoting agent, as required by the present claims. In fact, Kiritani’s disclosure unambiguously teaches away from attempting microencapsulation as presently claimed.

Moreover, to modify Kiritani in a way that removes the deposition promoter would be to alter the Kiritani process/composition in a manner not intended and, in fact, contrary to its teaching. But, as is well settled, to do what the prior art teaches against is the very antithesis of obviousness. See, *e.g.*, *In re Rosenberger*, 156 USPQ 24, 26, (CCPA 1968) and *In re Buehler*, 185 USPQ 781, 787 (CCPA 1975). For this reason also the rejections should be withdrawn.

We further submit that in view of the foregoing Kiritani is not properly cited in combination with either the '952 Application or the '209 patent. Accordingly, neither the first (based on the '952 application) nor the second (based on the '209 patent) double patenting rejections are properly made, and both should fall.

In view of the foregoing, it is submitted that both double patenting rejections have been rendered moot. Reconsideration and withdrawal of the rejections are respectfully requested.

### **Obviousness Rejections**

The Examiner rejected claims 1-13 under 35 USC § 103(a) as obvious over North, U.S. Patent No. 4,285,690 ("North") in view of Kiritani. (Paper No. 20070716 at 7).

For the reasons set forth below the rejection respectfully is traversed.

North discloses the use of "alkylated glyoxal/cyclic urea condensates **...for crosslinking textile fabrics.**" (North, col. 1, ln. 66-68) (emphasis added). The Abstract, in its entirety, states, "Alkylated glyoxal/cyclic urea condensates are excellent formaldehyde-free crosslinking resins for textile fabrics."

In making the rejection, the Examiner asserted that "[North] discloses a product resulting from the reaction between a cyclic urea and glyoxal ..." that "is ... a subset of the general compound described by Applicant ..." The Examiner further asserted that "North ...discloses that the product is water soluble", citing the "[use of] an aqueous solution of the product in at least one example." (Id. at 8).

The Examiner conceded that "North directs his invention to the field of wrinkle-resistant fabric." Nonetheless, the Examiner asserted that North "recognizes a multitude of different fields of endeavor to which one could apply the product..., including film-forming resins for coatings [citing col. 3, line 50]", and "[t]he word 'coatings' is interpreted as an analogous term for 'resins'." (Id.)

With a view towards furthering prosecution, independent claim 1 has been amended to recite: “[p]rocess for forming capsules comprising the steps of:

- (1) forming a solution of an amino compound (I) in a solvent;
  - (2) forming a dispersion of a core material in the solution;
  - (3) depositing the amino compound as a resin upon the surface of the core material to form capsules **without adding an exogenous deposition promoter**;
- and
- (4) optionally hardening and/or recovering the capsules,
- whereby steps (1) and (2) are executed in either order or simultaneously, and wherein amino compound (I) has the following formula [as recited]...”.

Also, as noted above, claim 6 has been amended to recite that in the encapsulated material, the **“resin is free from an exogenous deposition promoter.”**

It is well settled that the Examiner bears the burden to set forth a prima facie case of unpatentability. *In re Glaug*, 62 USPQ2d 1151, 1152 (Fed. Cir. 2002); *In re Oetiker*, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); and *In re Piasecki*, 223 USPQ 785, 788 (Fed. Cir. 1984). If the PTO fails to meet its burden, then the applicant is entitled to a patent. *In re Glaug*, 62 USPQ2d at 1152.

When patentability turns on the question of obviousness, as here, the search for and analysis of the prior art by the PTO should include evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to do what the Applicants have done. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (April 30, 2007) (the obviousness “analysis should be made explicit” and the teaching-suggestion-motivation test is “a helpful insight” for determining



obviousness) (*emphasis added*); *McGinley v. Franklin Sports*, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). Moreover, the factual inquiry whether to combine documents must be thorough and searching. And, as is well settled, the teaching, motivation, or suggestion to combine “must be based on objective evidence of record.” *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002) (*emphasis added*). See also Examination Guidelines for Determining Obviousness, 72 Fed. Reg. 57526, 57528 (October 10, 2007) (“the U.S. Patent and Trademark Office Examination Guidelines”) (“The key to supporting any rejection under 35 USC § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.”).

It is respectfully submitted that the rejection is devoid of a proper §103 analysis. All that is there is the conclusory statement that “it would have been obvious ... to combine the teaching of North with the teaching of [Kiritani].” (Paper No. 20070716 at 8). The Examiner also asserted that “[t]he water-soluble resin created from North’s teaching could be used in the process that [Kiritani] describe with a reasonable expectation of producing a microcapsule.” (*Id.*).

What the rejection should have done, but did not, was to explain on the record why one skilled in this art would modify the disclosure of North with Kiritani to arrive at the claimed process for forming capsules and encapsulated material. As is well settled, an Examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done. *Takeda Chem. Indus., Ltd v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. June 28, 2007) (indicating that “it remains necessary to

identify some reason that would have led a chemist to modify a known compound in a particular manner to establish prima facie obviousness of a new claimed compound”) (emphasis added); *Ex parte Levengood*, 28 USPQ2d 1300, 1301-02 (BPAI 1993). But, this is precisely what the Examiner has done here. Thus, the rejection is legally deficient and should be withdrawn for this reason alone.

Notwithstanding the legally insufficient nature of the rejection, we note that the rejection is also factually insufficient to support a rejection under § 103(a). In doing so we observe that obviousness cannot be based upon speculation, nor can obviousness be based upon possibilities or probabilities. Obviousness must be based upon facts, “cold hard facts.” *In re Freed*, 165 USPQ 570, 571-72 (CCPA 1970). When a conclusion of obviousness is not based upon facts, it cannot stand. *Ex parte Saceman*, 27 USPQ2d 1472, 1474 (BPAI 1993). Further, “to establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art.” MPEP § 2143.03 (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)) (emphasis added).

Beyond looking at the references to determine if any of them suggests doing what the inventors have done, one must also consider if the art provides the required expectation of succeeding in that endeavor. See *In re Dow Chem. Co. v. American Cyanamid Co.*, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (“Both the suggestion and the expectation of success must be founded in the prior art, not in applicants’ disclosure.”) “Obviousness does not require absolute predictability, but a reasonable expectation of success is necessary.” *In re Clinton*, 188 USPQ 365, 367 (CCPA 1976). Furthermore, the U.S. Patent and Trademark Office Examination Guidelines at

page 57527 provide the following guidance to Examiners: "In short, the focus when making a determination of obviousness should be on what a person of ordinary skill in the pertinent art would have known at the time of the invention, and on what such a person would have reasonably expected to have been able to do in view of that knowledge".

However, no such motivation or expectation of success can be found in the cited documents.

Applicants submit that the teachings of North are not related to the present invention. As noted, North is concerned with the crosslinking of textile fabrics. North's use of an aqueous solution for crosslinking textile fabrics does not in any way teach, suggest or provide motivation for microencapsulation of a dispersed material. Furthermore, North does not otherwise disclose or suggest microencapsulation of a dispersed material.

With reference to North's mention of suitability of the alkylated product of the reaction of a cyclic urea and glyoxal as "a film-forming resin in coatings", the Examiner stated that "[t]he word 'coatings' is interpreted as an analogous term for 'resins'." (Paper No. 20070716 at 8). Whether or not this interpretation is applied, the Examiner has not provided any explanation of how North allegedly teaches, suggests, or provides motivation for a process for microencapsulation of a dispersed material. It is submitted that the Examiner's attempt to apply North to the present claims strains credulity. In view of the foregoing, North is not properly cited as a basis for rejection. Without a properly cited primary reference, the rejection is improper and must fall.

Furthermore, as the Examiner has combined North with Kiritani, we incorporate and apply the statements and arguments concerning Kiritani that are presented above in response to the double patenting rejections. As a reminder of the statements and arguments presented above regarding Kiritani, and not as a replacement for their incorporation here in full, Kiritani require a deposition promoting agent for microencapsulation. In view of the teachings of Kiritani as a whole, one skilled in the art would not expect success in microencapsulating without a deposition promoter, as presently claimed. In fact, Kiritani tends to lead one skilled in the art away from attempting microencapsulation as presently claimed.

In view of either North or Kiritani or both combined, the Examiner erred in stating that these documents combined provide a "reasonable expectation of producing a microcapsule." The Examiner's combination of North and Kiritani is improper and cannot stand.

Moreover, even if anyone skilled in the art were to hypothetically look at the combined teachings of North and Kiritani, any resulting product would include a deposition promoter. Thus, such a composition would not render the present claims, which exclude such a deposition promoter, obvious.

We further note that the North patent issued in 1981 and the Kiritani patent issued in 1976. Thus, North presumably had Kiritani before it yet did not think to make any modifications based on Kiritani. Moreover, quite a span of time has passed until the present application and, regardless of the Examiner's allegations concerning North and Kiritani, no one, to our knowledge, has sought to combine North and Kiritani

in the manner suggested by the Examiner. These observations argue strongly against the proposed combination by the Examiner.

Even if the combination of North and Kiritani were proper, which we submit that it is not, the rejection has been overcome.

In view of the foregoing, the rejection has been rendered moot. Reconsideration and withdrawal are respectfully requested.

The Examiner rejected claims 1-13 under 35 USC § 103(a) as obvious over Skoultchi, et al., U.S. Patent No. 4,770,668 in view of North and Kiritani. (Paper No. 20070716 at 8).

For the reasons set forth below the rejection respectfully is traversed.

North and Kiritani are summarized above.

Skoultchi disclose "adducts of cyclic ethylene urea which are useful as permanent press agents.... Such materials impart a high degree of permanent press properties to cellulose and cellulose/polymer blend fabrics." (Abstract, ln. 1-2; Abstract, ln. 7-9).

In making the rejection, the Examiner asserted that "[Skoultchi] disclose the production of [a] compound [that falls under Applicant's claim] for use as a permanent press, or wrinkle-resistant, fabric agent." (Paper No. 20070716 at 9, paras. 35 and 36). The Examiner also asserted that "[Skoultchi] disclose that the invention is water soluble, as evidenced by the preferred embodiment of an 8% aqueous treatment solution of the compounds." (Id. at 9, para. 36).

The Examiner admits that "[Skoultchi] are *silent* with regards to using their invention toward coatings." (Id. at 9, para. 37) (emphasis added).

The Examiner concludes, however, that “it would have been obvious to ... apply the invention of [Skoultchi] toward film-forming coatings.” (Id. at 9-10). And, the Examiner stated that with the teachings of North, “one of ordinary skill in the art would reasonably expect the compounds of [Skoultchi] to be a suitable substrate for the production of film-forming resins.” (Id. at 10). The Examiner added that “[o]ne would recognize that said compound could further be used in the process that [Kiritani] describe.” (Id.)

Initially, we note that the Examiner’s statement that in the compound of Skoultchi  $R_1$  can be H is in error. We respectfully submit that no such disclosure is found in Skoultchi. Thus, because the rejection misconstrues Skoultchi, it must be withdrawn for this reason alone. *Ex parte Porter*, 25 USPQ2d 1144, 1147 (BPAI 1991).

We further observe that when patentability turns on the question of obviousness, as here, the search for and analysis of the prior art by the PTO should include evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to do what the Applicants have done. *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (April 30, 2007) (the obviousness “**analysis should be made explicit**” and the teaching-suggestion-motivation test is “**a helpful insight**” for determining obviousness) (emphasis added); *McGinley v. Franklin Sports*, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). Moreover, the factual inquiry whether to combine documents must be thorough and searching. And, as is well settled, the teaching, motivation, or suggestion to combine “**must be based on objective evidence of record.**” *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002) (emphasis added). See also Examination Guidelines for Determining Obviousness, 72 Fed. Reg. 57526, 57528

(October 10, 2007) ("the U.S. Patent and Trademark Office Examination Guidelines")  
("The key to supporting any rejection under 35 USC § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.").

Applicants here incorporate all statements and arguments above, legal and factual, concerning North and Kiritani. As noted above, North's crosslinking of textile fabrics provides no teaching, suggestion or motivation for a process for microencapsulation of a dispersed material. Kiritani requires a deposition promoting agent, and provides no reasonable expectation of producing a microcapsule as presently claimed. In fact, Kiritani leads one skilled in the art away from the presently claimed invention.

Applicants submit that Skoultchi is even further removed from the claims of the present application than is North. Skoultchi relates to use of compounds for permanent press of fabrics. The Examiner admits that Skoultchi is silent regarding coatings. The Examiner provides no basis for one to consider the compounds of Skoultchi as a suitable substitute for film-forming resins. Furthermore, there is no teaching, suggestion, or motivation at all in Skoultchi concerning microencapsulating a dispersed material. The combination of references is improper. Moreover, any such combination can not lead to the present claims. Reconsideration and withdrawal of the rejection are requested.

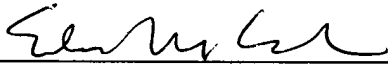
Even if the combination of Skoultchi, North and Kiritani were proper, which Applicants submit that it is not, the rejection has been overcome.

In view of the foregoing, the rejection has been rendered moot. Reconsideration and withdrawal are respectfully requested.

Application No.: 10/560,212  
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In view of all of the foregoing, entry of the amendments and withdrawal of all outstanding objections and rejections is respectfully requested. It is submitted that the application is in condition for allowance. Issuance of a Notice of Allowance is respectfully requested.

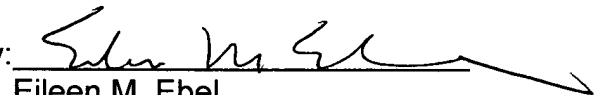
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 4, 2008.



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Respectfully submitted,

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